

COMPRESSOR DEFINITION

Designation	EM D80CLT
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513300442

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	220-240 / 50	[V / Hz]	
4 Application type	Low Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°F)	
5 Motor type	RSCR		
6 Starting torque	LST - Low Starting Torque		
7 Expansion device	Capillary tube		
8 Compressor cooling	Operating voltage range		
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static	-	-
8.2 LBP (43°C Ambient temperature)	Static	187 to 255 V	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm ²] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm ²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	12.21	[cm ³] (0.745 cu.in)
2.1 Bore [mm]	26.000	
2.2 Stroke [mm]	23.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	8.6	[kg] (18.96 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	TSD	
2.1 Starting device	TSD-220V0.6	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	4TM232KFBYY-53	
6 Start winding resistance	[Ω at 25°C (77°F)] +/- 8%	
7 Run winding resistance	[Ω at 25°C (77°F)] +/- 8%	
8 LRA - Locked rotor amperage (50 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
751	189	220	116	0.54	2.36	6.47	1.63	1.90

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static				(Condensing temperature 35°C (+95°F))				
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	432	109	127	74	0.35	1.35	5.87	1.48	1.72
-30	(-22)	582	147	170	86	0.40	1.82	6.75	1.70	1.98
-25	(-13)	763	192	224	100	0.46	2.39	7.65	1.93	2.24
-20	(- 4)	978	247	287	115	0.53	3.07	8.57	2.16	2.51
-15	(+ 5)	1227	309	360	130	0.60	3.86	9.52	2.40	2.79
-10	(+14)	1510	381	443	145	0.67	4.76	10.48	2.64	3.07

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static				(Condensing temperature 45°C (+113°F))				
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	398	100	117	76	0.36	1.25	5.25	1.32	1.54
-30	(-22)	538	136	158	89	0.41	1.69	6.03	1.52	1.77
-25	(-13)	714	180	209	104	0.48	2.24	6.83	1.72	2.00
-20	(- 4)	926	233	271	121	0.56	2.91	7.66	1.93	2.24
-15	(+ 5)	1176	296	345	138	0.64	3.70	8.51	2.14	2.49
-10	(+14)	1463	369	429	156	0.72	4.62	9.39	2.37	2.75

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static				(Condensing temperature 55°C (+131°F))				
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	373	94	109	79	0.37	1.17	4.72	1.19	1.38
-30	(-22)	500	126	146	93	0.43	1.57	5.39	1.36	1.58
-25	(-13)	665	168	195	109	0.50	2.09	6.08	1.53	1.78
-20	(- 4)	870	219	255	127	0.58	2.74	6.81	1.72	2.00
-15	(+ 5)	1116	281	327	147	0.67	3.51	7.57	1.91	2.22
-10	(+14)	1403	354	411	168	0.77	4.43	8.37	2.11	2.45

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	336	85	99	79	0.38	1.05	4.24	1.07	1.24
-30	(-22)	445	112	130	94	0.44	1.39	4.80	1.21	1.41
-25	(-13)	595	150	174	111	0.51	1.87	5.39	1.36	1.58
-20	(- 4)	789	199	231	131	0.60	2.48	6.02	1.52	1.76
-15	(+ 5)	1026	259	301	153	0.70	3.23	6.69	1.68	1.96
-10	(+14)	1308	330	383	176	0.81	4.13	7.39	1.86	2.17

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 40° up + 45° to Back		
3.2 DISCHARGE	4.9 +0.10/-0.05	[mm]	(0.193" +0.004"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 0° up + 24° to Back		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 40° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		